Interstate Natural Gas Association of America

June 21, 2005

Mark Friedrichs
PI-40
Office of Policy and International Affairs
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Dear Mr. Friedrichs:

The Interstate Natural Gas Association of America (INGAA), a trade association of the interstate natural gas pipeline industry, submits these comments on the General Guidelines for Greenhouse Gas Reporting Interim Final Rule (General Guidelines, 70 FR 15169-15192) and Draft Technical Guidelines Voluntary Reporting of Greenhouse Gases (1605b) Program (Technical Guidelines, Notice at 70 FR 15164).

INGAA member companies transport more than 90 percent of the nation's natural gas, through some 180,000 miles of interstate natural gas pipelines. Our industry operates more than 5,800 natural gas-fired reciprocating internal combustion engines and 1,000 natural gas-fired combustion turbines at compressor stations and natural gas storage facilities across the United States. INGAA member companies do not own the gas they transport but provide a transportation service, much like a truck, to bring gas to the market. In addition to its economic importance, natural gas represents the cleanest burning fossil fuel, with lower emissions of greenhouse gases (GHGs), criteria pollutants, and hazardous air pollutants as compared to other primary domestic energy resources.

The U.S. will increasingly rely upon natural gas to meet our national electricity generation demands and environmental goals. For example, the Energy Information Administration's Annual Energy Outlook 2005 forecasts that the total natural gas consumption will increase from 22.0 trillion cubic feet in 2003 to 30.7 trillion cubic feet in 2025. Natural gas pipeline operations are essential to providing new and existing power plants with this clean-burning fuel. Additionally, a robust natural gas distribution network will facilitate the service of newer, more efficient and flexible "distributed generation" systems that are capable of converting natural gas to useful energy products at the highest efficiency of any fossil fuel.

Emissions of GHGs from natural gas transmission and storage operations are comprised primarily of CO_2 from combustion exhaust, and fugitive and vented methane emissions. Due

to the lower relative GHG emissions intensity for natural gas compared to other primary domestic energy resources and displacement of GHGs from the power sector with increased gas use, the projected growth in natural gas usage within the United States will be a key contributor to our nation's ability to realize a reduction in GHG emission rates while maintaining economic growth. INGAA believes that this positive advantage of increased natural gas usage should be realized in consideration of "displaced emissions" that result from higher utilization and increased capacity of interstate natural gas transmission systems.

INGAA welcomes DOE's efforts to develop a robust GHG reporting program through the proposed 1605(b) General Guidelines and Technical Guidelines. However, as a voluntary program, 1605(b) does not have complete subscription, and it is important that DOE actively integrate the efforts of 1605(b) reporting with other voluntary federal programs, such as the EPA Natural Gas STAR program. While the EPA STAR program is not a GHG registry, it does include reporting of GHG reductions from methane sources, and it is the current federal GHG program with the largest number of natural gas transmission industry participants. For the 1605(b) program to become a robust National Registry, it must be integrated with the efforts of other federal agencies so that industry-sponsored efforts to chronicle GHG emissions, and implement and document GHG reductions – completed under the auspices of a federal voluntary program – are recognized and credited.

Currently, INGAA is undertaking an effort to establish standardized GHG emission estimation guidelines for gas transmission and storage, including a review of currently available methods and emission factors. Characterization of both methane and carbon dioxide emissions is important when determining GHG emissions from natural gas systems, and this INGAA effort will add insight into the efficacy of current emission estimation methods and provide a reference point for GHG estimation from the transmission and storage sector.

Additional discussion of INGAA comments is provided in an Attachment to this letter. The INGAA comments include:

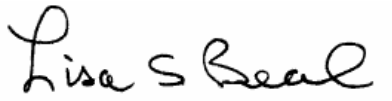
1. INGAA supports the DOE's stated objective to enhance measurement accuracy, reliability, and verifiability of reported GHG emissions.
2. DOE should ensure that the requirements of the 1605(b) program are consistent with other voluntary initiatives, such as the EPA Natural Gas STAR Program, to ensure that industry participants in companion federal programs retain value from participation.
3. Natural gas is a less GHG intensive and cleaner energy resource for utility, industrial, commercial and residential customers. DOE should ensure that this benefit is reflected in reporting requirements.
4. Emission measurement and estimation methods and emission factors will continue to evolve and improve, and DOE should provide an efficient mechanism to promote the acceptance of new and innovative methodologies into 1605(b) reporting, deferring to peer-reviewed sector-specific estimation methods.
5. In the Technical Guidelines, discourse on reporting accuracy and estimation methods appears to be biased toward more accessible emissions such as GHGs from combustion.

DOE has not effectively considered the technical limitations associated with emissions that are more difficult to quantify, such as fugitives.

6. INGAA believes that the proposed Emissions Rating System in Section 1.A.4 of the Draft Technical Guidelines is premature. The rating system should be eliminated, or, at a minimum, tabled until the state-of the-science for non-combustion emission estimates warrants the institution of such a system.
7. DOE should develop a programmatic approach to engage in the development of evolving technology and practices that will significantly enhance the quality of GHG emissions reporting from natural gas systems.
8. As a voluntary program, it is imperative that companies that opt into the reporting requirements secure value for their participation.
9. The revised General Guidelines and the Technical Guidelines provide significant opportunity for inconsistency and redundancy with ongoing corporate, trade association, state/provincial, regional, national, and international GHG programs. DOE should coordinate program content and requirements with other leading GHG programs for emissions estimation, reporting, and reduction.

We appreciate DOE's consideration of these comments. If you have any questions, please contact me at 202-216-5935.

Sincerely,



Lisa S. Beal
Director, Environment and Construction Policy
Interstate Natural Gas Association of America

Attachment: Interstate Natural Gas Association of America Comments on the DOE 1605(b) General Reporting Guidelines Interim Final Rule and Draft General Reporting Guidelines

Attachment

Interstate Natural Gas Association of America
Comments on the DOE 1605(b) General Reporting Guidelines
Interim Final Rule and Draft Technical Reporting Guidelines

The Interstate Natural Gas Association of America (INGAA), a trade association of the interstate natural gas pipeline industry, submits these comments on the General Guidelines for Greenhouse Gas Reporting Interim final Rule (General Guidelines) and Draft Technical Guidelines Voluntary Reporting of Greenhouse Gases (1605b) Program (Technical Guidelines).

INGAA member companies transport more than 90 percent of the nation's natural gas, through some 180,000 miles of interstate natural gas pipelines. Our industry operates more than 5,800 natural gas-fired reciprocating internal combustion engines and 1,000 natural gas-fired combustion turbines at compressor stations and natural gas storage facilities across the United States. INGAA member companies do not own the gas they transport but provide a transportation service, much like a truck, to bring gas to the market.

The Energy Information Administration's Annual Energy Outlook 2005 forecasts that the total natural gas consumption will increase from 22.0 trillion cubic feet in 2003 to 30.7 trillion cubic feet in 2025. In addition to its economic importance, natural gas represents the cleanest burning fossil fuel, with lower emissions of greenhouse gases (GHGs), criteria pollutants, and hazardous air pollutants as compared to other primary energy resources. Emissions of GHGs from natural gas transmission and storage operations are comprised primarily of CO_2 from combustion exhaust, and fugitive and vented methane emissions. However, due to its lower relative GHG emissions intensity compared to other primary domestic energy resources and the displacement of GHGs from the power sector, the projected growth in natural gas usage within the United States will be a key contributor to our nation's ability to realize a reduction in GHG emissions while maintaining economic growth.

Based on our review of the DOE documents, INGAA comments include:

1. **INGAA supports the DOE's stated objective to enhance measurement accuracy, reliability, and verifiability of reported GHG emissions.**

INGAA is supportive of the DOE goal to enhance the accuracy, reliability, and verifiability of reported emissions, including working with and taking into account emerging domestic and international approaches. We also support the desire to enhance the consistency, utility, and credibility of voluntary greenhouse gas emissions estimation methods, reduction tracking, and reporting. Specifically, we endorse efforts to standardize widely accepted and transparent emissions estimation methods, minimize reporting and transaction costs for

reporters and program participants, and the use of credible reporting to make informed decisions.

These goals are a common thread that runs through a number of reporting/accounting protocols in the public domain. Currently, INGAA is developing GHG Emission Estimation Guidelines that address emission estimation methodologies for the natural gas transmission and storage sector. This document will identify the most appropriate emission estimation methods for transmission and storage GHG sources, and establish a consistent framework for estimating and reporting GHGs from this sector. The INGAA Guidelines share the above stated DOE objectives. However, in executing these objectives, INGAA believes that some proposals in the DOE Technical Guidelines add burden and cost to the reporting process without commensurate benefit in the reporting quality. This issue is discussed further below in comments on the proposed Emissions Rating System and Inventory Weighted Average Rating.

2. **DOE should ensure that the requirements of the 1605(b) program are consistent with other voluntary initiatives, such as the EPA Natural Gas STAR Program, to ensure that industry participants in companion federal programs retain value from participation.**

The proposed General Guidelines and Technical Guidelines strive to improve upon the current reporting requirements under 1605(b). INGAA welcomes DOE's efforts to develop a robust National Registry for reporting GHG emissions – and ultimately chronicling emission reductions. However, this voluntary program is one of several federal GHG initiatives in recent years, and industry participation in the different federal programs varies for different sectors. While there has been limited natural gas industry participation in the 1605(b) program to date, the EPA Natural Gas STAR program has been more fully enrolled by gas transmission companies. Through this initiative, industry participants have reported significant reductions in GHG emissions. The EPA STAR program dates back over a decade, and has included industry commitment resulting in real GHG reductions. This value should not be lost in the 1605(b) program.

The most pressing issue is the stipulation in the General Guidelines that limits registration of reductions to those achieved post-2002. INGAA strongly objects to this arbitrary restriction, and does not understand why DOE would choose to undermine the positive results from a companion federal program. Under the EPA STAR program, the transmission and distribution sector reported 135 billion cubic feet of methane reductions through 2002. These voluntary reductions required considerable initiative and effort – and industry presumed that sister-agencies in the federal government would strive to recognize these important results. DOE should reconsider the proposed reduction registration period proposed in the General Guidelines, and strive to integrate the goals and intents of current federal programs into the 1605(b) reporting program.

As discussed further in Comment 9, there is a general need for cross-functional integration of international, federal, regional, and state GHG reporting programs. This need for integration

is especially true for existing federal program, and DOE should develop timelines and criteria for 1605(b) reporting to ensure that companies retain the value of participating in other federal programs such as EPA Natural Gas STAR. Successful integration will serve to promote 1605(b) reporting as the basis of a National Registry for GHG emissions and reductions.

3. **Natural gas is a less GHG intensive and cleaner energy resource for utility, industrial, commercial and residential customers. DOE should ensure that this benefit is reflected in reporting requirements.**

It is well established that natural gas has lower relative GHG emissions than other fossil fuel-based energy resources (i.e., it is a less "GHG intensive" energy resource). In fact, the projected growth in the contribution of natural gas to domestic energy usage is a key opportunity to reduce relative GHG emissions from the energy sector, by promoting resources such as high efficiency natural gas-fired cogeneration and combined heat and power (CHP) facilities, and distributed generation sources such as small turbines, fuel cells, and reciprocating internal combustion engines. It is important that DOE reporting guidelines ensure that emissions associated with energy usage properly reflect the GHG advantage of natural gas – both in terms of relative emission levels from combustion, and the efficiency of the process.

4. **Emission measurement and estimation methods and emission factors will continue to evolve and improve, and DOE should provide an efficient mechanism to promote the acceptance of new and innovative methodologies into 1605(b) reporting, deferring to peer-reviewed sector-specific estimation methods.**

The ability and flexibility to integrate improved emission measurement methods, emissions estimation techniques, and new emissions data should be encouraged, especially since facility-level or equipment-level emission factors are commonly used for difficult to measure source types such as fugitive and vented methane emissions. As new data becomes available (to develop improved emission factors) and emission estimation techniques evolve, DOE should provide a mechanism to efficiently integrate or accept quality emissions data and factors into the program – especially if the rating scheme discussed in Comment 6 is maintained.

The draft Technical Guidelines do not offer specific recommendation or endorse specific emission factors and methods. In addition, the Technical Guidelines do not associate industrial sources or activities with recommended or "approved" estimation approaches. The legitimacy of a methodology can be acknowledged by DOE without compromising flexibility for participants to use alternatives. While INGAA supports retaining flexibility for estimating and reporting emissions, DOE should acknowledge acceptable sector-specific emission estimation methodologies that implement current best practices and have been peer reviewed. DOE should incorporate sector-specific recommendations – such as the pending INGAA GHG Estimation Guidelines – for sector-specific emission estimates. This will provide an

avenue to address the fact that the Technical Guidelines do not adequately consider the current state-of-the-science for difficult to measure GHGs (e.g., fugitive emissions), as discussed further below.

5. In the Technical Guidelines, discourse on reporting accuracy and estimation methods appears to be biased toward more accessible emissions such as GHGs from combustion. DOE has not effectively considered the technical limitations associated with emissions that are more difficult to quantify, such as fugitives.

The implied context of the Technical Guidelines is GHG estimates that provide multiple technical approaches for characterizing emissions. For example, page 112 of the Technical Guidelines identifies the rating hierarchy for natural gas industries as: (1) direct measurement, (2) mass balance, and (3) default emission factors. Fugitive emissions are the most significant methane source from natural gas systems. The current state-of-the-science for emissions reporting for fugitives is default emission factors. In the proposed rating scheme and inventory weighting proposed in Section 1.A.4 of the Technical Guidelines (discussed in Comment 6), this accepted emission determination – consistent with the best practices currently available – fails to meet the criteria for registry (i.e., a rating less than "3").

For well established emission methods, such as CO_2 from combustion sources, a rating system may be viable. For example, the EPA AP-42 documents provide a quality rating for emissions from combustion sources (and this system differs from DOE's proposal). However, GHG reporting encompasses a much broader array of industrial sources, including fugitive and vented sources. The current state-of-the science for emissions reporting for fugitive methane emissions is based on emission factors. In fact, the federally accepted test method for fugitive volatile organic compounds, EPA Method 21, is not a direct measurement, but rather measures concentration and infers mass emissions. Under the Technical Guidelines, this "inference" implies a low rating – even for a determination based on a federally accepted test method. These important, insurmountable, and inherent differences in the technical options for emissions measurement – and associated reporting – are not recognized in the Technical Guidelines. It is imperative that the DOE 1605(b) Technical Guidelines provide a means to recognize these technical differences. For example, EPA's AP-42 document has continued to evolve since its initial publication over 30 years ago. Similarly, the Technical Guidelines must provide the opportunity for GHG estimation methods to improve – through avenues such as improved and more abundant datasets to serve as the basis for emission factors. DOE should not disregard the important distinction between different source types and should not establish a performance metric (i.e., the ranking and weighting scheme discussed below) that exceeds the current state-of-the-science for important emission sources.

DOE needs to properly consider these technical differences in "measurement" and emission estimation in developing a scheme that evaluates accuracy. DOE should reconsider technical components of the proposal, such as the proposed rating scheme, to properly address the full range of sources and technical challenges associated with GHG emissions characterization.

6. **INGAA believes that the proposed Emissions Rating System in Section 1.A.4 of the Draft Technical Guidelines is premature. The rating system should be eliminated, or, at a minimum, tabled until the state-of the-science for non-combustion emission estimates warrants the use of such a system.**

INGAA supports DOE's goal to improve the accuracy, reliability, and verifiability of reported emissions. The Emissions Rating System is the primary mechanism proposed by DOE to achieve these goals. INGAA believes that this proposal is premature based on the fundamental factors that impact the accuracy of current GHG emission estimates. DOE should eliminate the rating scheme and focus on improving the underlying measurements and data sources, thus reducing the statistical uncertainty in the reported emissions and achieving real improvements in reporting accuracy.

The ratings from Section 1.A.4 of the Technical Guidelines are characterized as an ordinal system, and DOE stresses that this system provides a relative ranking and acknowledges that the ratings are not comparable from one source type to another. However, in then devising a weighting scheme based on the rating, DOE directly assigns a quantitative value to the method used, and this "value" is used to determine an average weighting that defines whether a reporter can register emissions. Thus, the "ordinal system" basis is supplanted by an alternative scoring system.

In reviewing the assignment of ratings for natural gas industry sources (Table 1.E.26), a significant portion of emissions (e.g., methane losses) would receive the lowest identified rating because the estimates are based on emission factors (i.e., direct site specific measurements and mass balance are not feasible for fugitive emissions). Even though the current fugitive emission estimate is considered state-of-the-science, due to limitations in technology for direct measurement a higher rating cannot be achieved. This suggests a fundamental flaw in the proposed rating system.

In addition, DOE claims that the proposed rating system will improve accuracy. INGAA believes that this is a nebulous claim, and that the system may do nothing to improve the understanding of the estimated accuracy, the underlying estimation technique, or the raw data from which the reporting method is developed. Rather, INGAA believes that the rating scheme is inconsistent with the EPA emissions factor rating system and will not materially change or substantively improve upon the uncertainties of the estimates inherent in both the activity data and emission factors.

In a supplement to its AP-42 document, *Procedures for Preparing Emission Factor Documents* (November, 1997), EPA discusses the various approaches for determining emissions, analogous to discourse in the DOE Technical Guidelines. EPA notes that, "Selecting the protocol to be used to estimate source-specific emissions warrants a case-by-case analysis considering the costs and risks in the specific situation." This speaks to the number of factors that impact the accuracy of an emission estimate. Unfortunately, the system proposed by DOE does not provide the means to consider such factors in assessing the validity and thoroughness of an emission estimation, especially since the DOE system does not properly account for technical limitations associated with sources such as fugitive

and vented emissions from natural gas systems. The Technical Guidelines: do not account for the lack of data and estimation methods currently available for some source types; inappropriately imply the necessity for emission estimates that exceed the current state of the science; and, penalize sources which lack feasible estimation methods.

DOE also claims that the ratings will provide incentive to use more accurate methods. When available approaches are lacking, INGAA fails to understand why any incentive would exist. In addition, for "simple" sources such as facilities that only have combustion emissions, the system would allow the reporter to choose a lower fidelity approach ("3 points"), when a readily available higher fidelity approach ("4 points") may be available at the site for combustion equipment.

Ultimately, INGAA believes that GHG reports will move towards emissions reporting that are as "accurate" as is technically and economically feasible. This "accuracy improvement" will be driven by market forces for GHG credits or requirements from potential future rulemaking or voluntary efforts. DOE should eliminate the suspect rating system proposed and the associated inequity that occurs for different source types under this system. DOE should allow established best practices, driven by peer reviewed estimation methods and emissions trading market forces, to establish the criteria for reporting accuracy. DOE's efforts are better served advancing the state of the science through practical efforts to improve the technical basis of emissions reporting.

7. DOE should develop a programmatic approach to engage in the development of evolving technology and practices that will significantly enhance the quality of GHG emissions reporting from natural gas systems.

A more active role by DOE in the support of programs to advance technologies for GHG quantification provides the greatest opportunity for the Agency to achieve the goals of improved reporting accuracy. For example, as noted in Section 1.E.4.2.2.2 of the Draft Technical Guidelines, fugitive methane emissions from the oil and gas industry are a major contributor to this sector. In recent years, industry has supported the development of technology and implementation practices for locating and estimating fugitive emissions. While progress has been made, governmental support could provide the impetus to achieve technology development goals and dramatically affect the state-of-the-science for fugitive emission quantification and reduction validation. This, and other tangible targets, would benefit from DOE support, and a programmatic approach should be developed by DOE with input from industry. INGAA welcomes the opportunity to assist in such an initiative, and believes that technological progress holds much more promise for achieving accurate and reliable GHG reporting than the creation of premature frameworks such as emissions rating systems.

DOE should provide resources and support efforts for improving essential emissions data and estimation methods. This support should include the integration of technology and increased data to reduce the uncertainties surrounding the larger sources of GHG emissions. One of the stated purposes and objectives for the inclusion of an emissions rating system is, "In particular, this approach is intended to make reported emissions more "accurate." " (pg. 4 in

the draft Technical Guideline). However, limited data drives the reporting accuracy for emissions such as fugitive methane. The rating approach, as proposed, will not decrease uncertainties or add to the dataset, and will not materially impact the accuracy. Instead, DOE should commit to advancing measurement methods and expanding the dataset.

Procedural and administrative conventions that are subjective, such as the proposed rating and weighting scheme, do not necessarily affect reporting accuracy. Such an initiative is inappropriate if reporting accuracy is constrained by technology limitations (e.g., fugitives measurement) or a lack of available emissions data.

For example, the 1996 published GRI/EPA Study is considered by many as the cornerstone for U.S. natural gas industry methane emissions quantification. Therefore, most of the information regarding problematic sources, emissions data, and emission factors has no equal in published reports for natural gas systems. However, the purpose of the GRI study was identification of sources and quantification of U.S. ***national*** methane emissions. These data are quickly becoming outdated and the uncertainties surrounding these early attempts to measure emissions from this industry segment are large and imprecise. Uncertainties of up to several hundred percent are common for some source types.

INGAA recommends that DOE work with industry to develop a focused research plan to update and improve upon these early attempts to develop industry-wide approaches for developing emission factors and determining GHG emissions.

8. As a voluntary program, it is imperative that companies that opt into the reporting requirements secure value for their participation.

INGAA member companies are already encumbered by mandatory emissions reporting requirements for regulated pollutants such as NOx. While DOE 1605(b) is voluntary, adding duplicative voluntary reporting requirements with each having slight nuances and differences, increases the reporting and transaction costs for reporters and program participants. It is imperative that companies secure value for participation in this program – and that participation is uniquely differentiated from the array of other GHG reporting programs that have proliferated recently. Specific issues associated with the failure of the proposed DOE Guidelines to consider progress under the EPA Natural Gas STAR program are discussed in Comment 2.

As GHG programs mature, there is a risk and cost associated with participating in a reporting program, often without a clear indication of the benefits of participation. A benefit could be demonstrated through a firm commitment to preserve the integrity of the initial baseline that a company develops. DOE should provide a mechanism to preserve the baseline inventory and ensure that GHG reductions already realized are properly recognized. INGAA believes that DOE should reinforce the support of the baseline and clearly indicate that the baseline will provide the basis for future actions. Any reported or subsequently required GHG reductions should be determined relative to this baseline.

9. **The revised General Guidelines and Technical Guidelines provide significant opportunity for inconsistency and redundancy with ongoing corporate, trade association, state/provincial, regional, national, and international GHG programs. The DOE should coordinate program content and requirements with other leading GHG programs for emissions estimation, reporting, and reduction.**

Currently, a number of programs exist for GHG emissions estimation, reporting, and/or reduction on a corporate, trade association, state/provincial, regional, national, and international level. For example, other programs include the California Climate Action Registry program, the Regional Greenhouse Gas Initiative, EPA Climate Leaders programs, and the U.S. EPA Natural Gas STAR – currently the most fully enrolled voluntary program for the natural gas transmission and storage sector.

While not intended to be duplicative or competing programs, such consequences are difficult to avoid. For these various programs, coordination of multiple reports to numerous entities is cumbersome and can potentially lead to errant reporting. The opportunity for program discontinuity and disparate inventories exists, and competing state, federal, and regional programs will likely result in confusion, as well as excessive effort and cost for implementation. An important conflict relative to the EPA Natural Gas STAR program is discussed in Comment 2.

DOE should develop and implement a strategy to coordinate the requirements and acceptable methodologies for interagency domestic and international GHG programs. In addition, the DOE should identify how updates and improvements of sister-documents, such as the WRI/WBCSD GHG Protocol, will be integrated into this guideline document. Projects such as the INGAA effort to review and update gas transmission emission factors can assist DOE efforts for compatibility by providing a standard reporting basis for the gas transmission and storage sector, and should be recognized.